



PTO/SB/08A (10-01)

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Substitute for form 1449A/PTO				Complete if Known	
				Application Number	10/027115
				Filing Date	December 20, 2001
				First Named Inventor	Donald E. Ackley
				Art Unit	2828
				Examiner Name	Nguyen, Tuan N.
Sheet	1	of	1	Attorney Docket Number	BVTP-P01-029

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
TN	AA	DE 299 11 250 U1	11-25-1999	Radchenko	
TN	AB	EP 0 560 627-A2	09-15-1993	De Beers Industrial Diamond	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See attached Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup>Kind of document by the appropriate symbol as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T <sup>2</sup>
TN	CA	Duthie, P.J. et al. Passively aligned four-channel reflective InP MQW modulator transmitter. Electronics Letters 31(14), 1177-1179 (6 July 1995).			
TN	CB	Wipiejewski, T. et al. Efficient Alignment Tolerant Coupling of Vertical-Cavity Lasers to Single-Mode Fibers. Proc. Euro. Conf. on Optical Comm. (ECOC), Zurich (12-16 Sept. 1993).			

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Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 11019-029001	Application No. 10/027,115
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		Applicant Donald E. Ackley	
		Filing Date December 20, 2001	Group Art Unit
(37 CFR §1.98(b))			

<b>U.S. Patent Documents</b>							
Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
TN	AA	6,080,116	06/27/2000	Erickson et al.	600	573	
	AB	6,050,988	04/18/2000	Zuck	604	890.1	
	AC	5,883,211	03/16/1999	Sassi et al.	526	367.2	
	AD	5,879,326	03/09/1999	Godshall et al.	604	506	
	AE	5,876,675	03/02/1999	Kennedy	422	99	
	AF	5,865,786	02/02/1999	Sibalis et al.	604	20	
	AG	5,858,188	01/12/1999	Soane et al.	204	454	
	AH	5,852,495	12/22/1998	Parce	356	344	
	AI	5,848,991	12/15/1998	Gross et al.	604	140	
	AJ	5,843,114	12/01/1998	Jang	606	180	
	AK	5,807,375	09/15/1998	Gross et al.	604	890.1	
	AL	5,801,057	09/01/1998	Smart et al.	436	68	
	AM	5,697,901	12/16/1997	Eriksson	664	46	
	AN	5,658,515	08/19/1997	Lee et al.	264	219	
	AO	5,632,957	05/27/1997	Heller et al.	422	68.1	
	AP	5,618,295	04/08/1997	Min	606	171	
	AQ	5,611,942	03/18/1997	Mitsui et al.	216	67	
	AR	5,611,806	03/18/1997	Jang	606	167	
	AS	5,605,662	02/25/1997	Heller et al.	422	68.1	
	AT	5,591,139	01/07/1997	Lin et al.	604	264	
	AU	5,582,184	12/10/1996	Erickson et al.	600	576	
	AV	5,527,288	06/18/1996	Gross et al.	604	140	
	AW	5,457,041	10/10/1995	Ginaven et al.	435	455	
	AX	5,401,242	03/28/1995	Yacowitz	604	48	
	AY	5,383,512	01/24/1995	Jarvis	164	46	
	AZ	5,364,374	11/15/1994	Morrison et al.	604	272	
	AAA	5,335,670	08/09/1994	Fishman	600	556	

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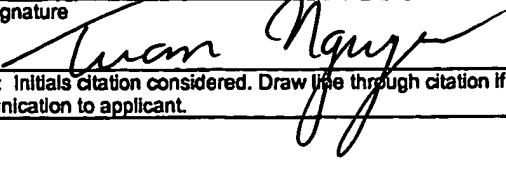
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<b>U.S. Patent Documents</b>							
Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
TN	ACCC	3,086,530	04/23/1963	Groom	606	186	
	ADDD	3,034,507	05/15/1962	McConnell et al.	609	46	
	AEEE	2,893,392	07/07/1959	Wagner	604	47	

<b>Foreign Patent Documents or Published Foreign Patent Applications</b>							
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes      No
TN	AFFF	7-132119	05/23/1995	JP			X
	AGGG	7-196314	08/01/1995	JP			
	AHHH	EP 0 652 600 B1	04/28/1999	EP			
	AIII	WO 93/17754	09/16/1993	WIPO			
	AJJJ	WO 96/37256	11/28/1996	WIPO			
	AKKK	WO 96/40365	12/19/1996	WIPO			
	ALLL	WO 96/41236	12/19/1996	WIPO			
	AMMM	WO 97/07734	03/06/1997	WIPO			
	ANNN	WO 98/00193	01/08/1998	WIPO			
	AOOO	WO 98/28037	07/02/1998	WIPO			
	APPP	EP 0 497 620 B1	07/29/1998	EP			
	AQQQ	DE 195 25 607 A1	01/16/1997	Germany			
	ARRR	WO 98/00194	01/08/1998	WIPO			
	ASSS	WO 98/28037	07/02/1998	WIPO			
	ATTT	WO 98/00193	01/08/1998	WIPO			
	AUUU	WO 99/64580	12/16/1999	WIPO			

<b>Other Documents (include Author, Title, Date, and Place of Publication)</b>			
Examiner Initial	Desig. ID	Document	
TN	AVVV	"101 Uses for Tiny Tubules", <i>Science</i> . Vol. 247, Part I, March 23, 1990	
	AWWW	"Single-crystal whiskers," <i>Biophotonics International</i> p. 64 (November/December 1996)	

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TJ	ABB	5,279,552	01/18/1994	Magnet	604	47	
	ACC	5,279,544	01/18/1994	Gross et al.	604	20	
	ADD	5,250,023	10/05/1993	Lee et al.	604	20	
	AEE	5,138,220	08/11/1992	Kirkpatrick	313	309	
	AFF	5,054,339	10/08/1991	Yacowitz	81	9.22	
	AGG	5,035,711	07/30/1991	Aoki et al.	424	422	
	AHH	4,969,468	11/13/1990	Byers et al.	600	373	
	AII	4,921,475	05/01/1990	Sibalis	604	20	
	AJJ	4,798,582	01/17/1989	Sarath et al.	604	47	
	AKK	4,771,660	09/20/1988	Yacowitz	81	9.22	
	ALL	4,703,761	11/03/1987	Rathbone et al.	600	571	
	AMM	4,671,288	06/09/1987	Gough	600	347	
	ANN	4,664,651	05/12/1987	Weinshenker et al.	604	115	
	AOO	4,320,758	03/23/1982	Eckenhoff et al.	604	802.1	
	APP	4,222,392	09/16/1980	Brennan	600	556	
	AQQ	4,156,659	05/29/1979	Barnhart	376	323	
	ARR	4,109,655	08/29/1978	Chacornac	604	47	
	ASS	3,964,482	06/22/1976	Gerstel et al.	604	890.1	
	ATT	3,918,449	11/11/1975	Pistor	604	47	
	AUU	3,675,766	07/11/1972	Rosenthal	206	367	
	AVV	3,596,660	08/03/1971	Melone	604	47	
	AWW	3,556,080	01/19/1971	Hein	600	556	
	AXX	3,221,740	12/07/1965	Rosenthal	604	47	
	AYY	3,221,739	12/07/1965	Rosenthal	604	47	
	AZZ	25,637	09/08/1964	Kravitz et al.	126	31	
	AAAA	3,136,314	06/09/1964	Kravitz et al.	604	46	
	ABBB	3,123,212	03/03/1964	Taylor et al.	206	367	

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**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
TN	AXXX	Amsden et al, "Transdermal Delivery of Peptide and Protein Drugs: an Overview," <i>ALChE Journal</i> 41(8):1972-1997 (1995).
	AYYY	Bronaugh et al, <i>Percutaneous Absorption: Mechanisms, Methodology, Drug Delivery</i> , (1985)
	AZZZ	Brumlik et al. "Template Synthesis of Metal Microtubules" <i>J. Am. Chem. Soc.</i> 199, 113, 3174-3175
	AAAAAA	Despont, et al. "High-Aspect-Ratio, Ultrathick, Negative-Tone Near-UV Photoresist For MEMS Applications" <i>Proc. of IEEE 10<sup>th</sup> Annual International Workshop on MEMS</i> , Nagoya, Japan pp. 518-522 (Jan, 26-30, 1997).
	ABBBB	Edell et al., "Factors Influencing the Biocompatibility of Insertable Silicon Microshafts in Cerebral Cortex" <i>Biomedical Engineering</i> Vol. 39(6) June 1992.
	ACCCC	Frazier et al., "Metallic Microstructures Fabricated using Photosensitive Polyimide Electroplating Molds," <i>Journal of Microelectromechanical Systems</i> Vol. 2(2):87-97, 1993
	ADDDD	Frazier et al., "Two Dimensional Metallic Microelectrode Arrays for Extracellular Stimulation and Recording of Neurons", <i>IEEE Proceedings of the Micro Electro Mechanical Systems Conference</i> , pp. 195-200 (1993).
	AEEEE	Hadgraft & Guy, eds., <i>Transdermal Drug Delivery: Developmental Issues and Research Initiatives</i> (1989)
	AFFFF	Haga et al., "Transdermal iontophoretic delivery of insulin using a photoetched microdevice," <i>Journal of Controlled Release</i> 43 (1997) 139-149
	AGGGG	Hashimi, et al., "Genetic Transformation of nematodes Using Arrays of Micromechanical Piercing Structures," <i>BioTechniques</i> 19(5):766-70 (1995)
	AHHHH	Henry et al., "Microfabricated Microneedles: A Novel Approach to Transdermal Drug Delivery" <i>Journal of Pharmaceutical Sciences</i> Vol. 87, No. 8 (1998)
	AIIII	Henry et al., "Micromachined Needles For the Transdermal Delivery of Drugs" <i>IEEE Proceedings of Micro Electro Mechanical Systems 11<sup>th</sup> Annual International Workshop</i> Heidelberg, Germany pp. 494-98 (January 25-29, 1998)
	AJJJJ	Hoffert "Transcutaneous Methods Get Under the Skin," <i>The Scientist</i> 12 (1998).
	AKKKK	Jaeger, <i>Volume V Introduction to Microelectronic Fabrication</i> (1988)
	ALLLL	Jansen et al., "The Black Silicon Method IV: The Fabrication of Three Dimensional Structures in Silicon With High Aspect Ratios For Scanning Probe Microscopy and Other Applications," <i>IEEE Proceedings of Micro Electro Mechanical Systems Conference</i> , pp. 88-93 (1995)
	AMMMM	Laermer et al., "Bosch deep Silicon Etching: Improving Uniformity and Etch Rate for Advanced MEMS Application" <i>IEEE International MEMS '99 Conference on Micro Electro Mechanical Systems</i> (January 17-21, 1999)
	ANNNN	Langer, "Drug Delivery and targeting" <i>Nature</i> Vol. 392 Supp. April 30, 1998 pp. 5-10
	AOOOO	Lehmann "Porous Silicon - A New Material For MEMS" <i>IEEE 9<sup>th</sup> Annual International Workshop on Micro Electro Mechanical Systems</i> (Feb. 11-15, 1996)
	APPPP	Lin, et al. "Silicon Processed Microneedles" <i>The 7<sup>th</sup> International Conference on Solid-State Sensors and Actuators</i> , 1993
	AQQQQ	Martin et al., "Template Synthesis of Organic Microtubules," <i>J. Am. Chem. Soc.</i> 1990, 112, 8976-8977

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TP	ARRRR	Najafi et al. "Strength Characterization of Silicon Microprobes in Neurophysiological Tissues," <i>IEEE Transactions on Biomedical Engineering</i> Vol. 37, No. 5 May 1990
	ASSSS	Prausnitz, Mark R. "Reversible Skin Permeabilization for Transdermal Delivery of Macromolecules" <i>Critical Reviews in Therapeutic Drug Carrier Systems</i> , 14(4):455-483 (1997)
	ATTTT	Quan, "Researchers envision pain-free drug delivery: Plasma etch yields microneedle arrays" <i>Electronic Engineering Times</i> 63:63-64 (1998)
	AUUUU	Rai-Choudhury, ed., <i>Handbook of Microlithography, Micromachining, and Microfabrication Proceedings of the IEEE Micro Electro Mechanical Systems Conference 1987-1998</i>
	AVVVV	Reiss "Glucose-and Blood Monitoring Systems Vie for Top Spot" <i>Biophotonics Int'l</i> , pp.43-45 (May/June 1997)
	AWWWW	Runyan, et al. <i>Semiconductor Integrated Circuit Processing Technology</i> (1990)
	AXXXX	Schift, "Fabrication of replicated high precision insert elements for micro-optical bench arrangements" <i>Proc. SPIE - International Soc. Optical Engineer</i> 3513:122-134 (1998)
	AYYYY	Talbot et al. "Polymolding: Two Wafer Polysilicon Micromolding of Closed Flow Passages for Microneedles and Microfluidic Devices" <i>Solid State Sensor and Actuator Workshop Hilton Head Island, South Carolina, June 8-11 266-268 (1988).</i>
	AZZZZ	Trimmer et al. "Injection of DNA into Plant and Animal Tissues with Micromechanical Piercing Structures" <i>IEEE Proceedings of Micro Electro Mechanical Systems Conference</i> , pp. 111-15 (1995)
	AAAAAA	Weber et al., "Micromolding – a powerful tool for the large scale production of precise microstructure," <i>Proc. SPIE - International Soc. Optical Engineer</i> 2879:156-167 (1996).
	ABBBB	Zuska, "Microtechnology Opens Doors to the Universe of Small Space" <i>Medical Device and Diagnostic Industry</i> , p. 131 (1997).

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